State of New Jersey
Department of Environmental Protection

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October 18, 2004

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Subject: Diamond Head Oil Refinery Superfund Site
Remedial Investigation Draft Technical Memorandum (Phase 1)
Kearny, Hudson County, New Jersey
Human Health Evaluation

The New Jersey Department of Environmental Protection (Department) has completed a review of the Appendix I: Human Health Risk Assessment and applicable sections of the *June 2004 Phase 1 Remedial Investigation Technical Memorandum,* prepared by CH2M Hill. While the Department does not require the development of a risk assessment document, we are providing the comments below based on current policies/procedures and standard EPA guidance including USEPA's Risk Assessment Guidance for Superfund Vol 1. 1989. This review is focused on human health impacts and has not addressed comments or issues associated with the ecological evaluation of the site.

The human health risk evaluation portion of the document is acceptable with the comments noted below. The Department does not utilize baseline risk assessment to determine whether remedial actions are indicated at a site and instead uses the Department's media specific risk based standards or cleanup criteria in the evaluation of a site. The Department's Soil Cleanup Criteria (SCC) is based on a risk of 10^{-6} that was signed into law.

Exceedances of the Department's media specific standards/criteria indicate that additional actions are necessary to address potential impacts to public health. A preliminary evaluation of the site data indicates that elevated levels of organic compounds and metals are present at the site.

Human Health Evaluation

Specific Comments:

1.2.1 Site Description, page 1-2:

Any additional risk evaluation of the site should include a map that clearly indicates the location of sensitive receptors (i.e., schools, office complexes, residences, parks, etc.) in relation to the contaminated areas associated with the site. Potential areas of future development in relation to contaminated site areas should also be clearly identified.

4.3.3 Subsurface Soil, page 4-6:

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The document indicates that the subsurface soil analytical results were compared to NJDEP Impact to Groundwater Soil Cleanup Criteria. The surface and subsurface soil analytical results must be compared to the NJDEP Direct Contact and Impact to Ground Water Soil Cleanup Criteria (SCC) to determine whether additional actions are indicated. The Department considers the SCC applicable to all soils within the soil column due to the potential for subsurface soils to be brought to the surface and vice versa.

4.3.5 Sediment, page 4-6:

The Department uses the NJDEP Sediment Guidance Criteria in the evaluation of water body sediment data for ecological impacts and the human health based SCC in the evaluation of sediment that dries out portions of the year and may be accessible to the public.

4.4.1 Soil Sampling Results, page 4-7:

The document indicates on page 4-7 and throughout the document that there are no criteria for PCBs in surface soils. The NJDEP Residential/Non-Residential Direct Contact PCB SCC of 0.49 ppm and 2 ppm, respectively, must be used in the evaluation of PCB soil analytical data.

6.2.1 Selection of COPCs, page 6-1:

While the Department understands that EPA uses the Region IX Preliminary Remediation Goals (PRGs) in the evaluation of the site data, the Department uses the NJDEP SCC, Surface Water Quality Standards (SWQS) and Groundwater Quality Standards (GWQS) to determine whether additional actions are necessary at the site.

6.2.2 Selection of Exposure Pathways, page 6-2:

The document proposes evaluating three distinct areas of the site due to the historic operations that occurred in those areas that might pose different health risks. These areas include the portion east of the landfill, west of the landfill and the landfill. It is unclear in the document how the three areas are defined in relation to site contamination and areas of current/future potential use. As noted previously, a map must be included in the risk evaluation identifying the above defined areas in relation to site contamination and sensitive receptors. The risk evaluation must also be able to justify that evaluating the above areas separately will adequately evaluate potential exposures to current and future occupants of the site. All contaminated areas related to the site must be adequately addressed in the risk evaluation.

It is unclear in Table 6-2 why the future site worker and/or construction worker exposure scenario is not being evaluated for the landfill surface soil. This should be clarified.

As noted previously, the Department compares sediment analytical data in areas that dry out periodically to the Department's SCC to determine whether additional actions are necessary. Locations that are noted to contain sediment that periodically dries out should be clarified in a site map.

7.1.3 Potential Sources of Site Contamination, page 7-2:

The document indicates that historic information suggests that the lagoon occupied the southeast section of the site and extended eastward beyond the current site boundary. The Department suggests that identification of the extent of off-site contamination be considered a priority in the evaluation of the site.

7.1.11 Human Health Risks Posed by the Site, page 7-7:

The Department agrees that a preliminary evaluation of the site data indicates that elevated levels of organic compounds (e.g., PCBs, benzo(a)pyrene, trichloroethylene and tetrachloroethylene) and metals (e.g., lead and chromium) are present in the site media. The comments presented in this memorandum should be considered in the development of a quantitative human health risk evaluation after the additional data is collected. Regardless of the results of the risk assessment, the Department will use the NJDEP media specific risk based standards/criteria to determine whether additional actions are necessary at the site.

Appendix A:

The NJDEP Non-Residential SCC table in Appendix A cites the Non-Residential SCC for hexavalent chromium as 6,100 ppm. However, the non-residential exposure scenario has a SCC for hexavalent chromium of 20 ppm.

Please feel free to contact me should you have any questions in regard to this matter at (609)-777-1398.

Respectfully,

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